CLAIMS

What is claimed is:

1.   A wireless receiver having a low-power listen mode, comprising:

a first receiver path for decoding a preamble to a wireless data packet and a second receiver path for decoding a data packet payload.

2.   The receiver of claim 1 wherein second receiver path is separate from said first receiver path.

3.   The receiver of claim 1 wherein the first receiver path requires less power to operate than the second receiver path.

4.   The receiver of claim 1 wherein the first receiver path has a lower decoding resolution than the second receiver path.

5.   The receiver of claim 1 wherein the first receiver path comprises a 2-bit analog-to-digital converter.

6.   The receiver of claim 1 wherein the second receiver path comprises an 8-bit analog-to-digital converter.

7.   The receiver of claim 1 wherein the first receiver path uses barker-code detection to decode the preamble.

8.   The receiver of claim 1 further comprising:

packet detection logic to identify data packets directed to the receiver; and

switching logic coupled to the packet detection logic to select the first receiver path or second receiver path depending on whether the packet detection logic has identified a data packet directed to the receiver.

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9. The receiver of claim 7 wherein the switching logic selects the first receiver path until a data packet is identified and then selects the second receiver path to decode the data packet payload.

10. A wireless receiver having a low-power listen mode, comprising:

a first analog front end and a second analog front end to decode a received data packet, wherein the data packet comprises a preamble and payload; and

wherein said first analog front end decodes the preamble and the second analog front end decodes the payload.

11. The receiver of claim 10 wherein the first analog front end requires less power to operate than the second analog front end.

12. The receiver of claim 10 wherein the first analog front end has a lower decoding resolution than the second analog front end.

13. The receiver of claim 10 wherein the first analog front end comprises a 2-bit analog-to-digital converter.

14. The receiver of claim 10 wherein the second analog front end comprises an 8-bit analog-to-digital converter.

15. The receiver of claim 10 wherein the first receiver path uses barker-code detection to decode the preamble.

16. The receiver of claim 10 further comprising:

packet detection logic to identify data packets directed to the receiver; and

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switching logic coupled to the packet detection logic to select the first analog front end or second analog front end depending on whether the packet detection logic has identified a data packet directed to the receiver.

17. The receiver of claim 16 wherein the switching logic selects the first receiver path until a data packet is identified and then selects the second receiver path to decode the data packet payload.

18. A method for receiving data packets in a wireless receiver, comprising:

receiving radio frequency signals with a first receiver path;

decoding signals received through the first receiver path to detect a code in a preamble of a received data packet;

upon detection of the code, switching to a second receiver path; and,

receiving a payload of received data packet with the second receiver path.

19. The method of claim 18, further comprising switching back to the first receiver path when receiving of the payload is completed.

20. The method of claim 18 wherein first receiver path requires less power than second receiver path.

21. A wireless device that is adapted to receive data packets from another wireless device, comprising:

means for receiving encoded information via a data packet wherein a first means decodes the preamble of the data packet and a second means decodes the payload of the data packet.

22.   The wireless device of Claim 21 further comprising switching means for switching between said first and second means.